CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims.

1. (Currently Amended) A sound reproduction system comprising:

a digital audio signal input ~~(1),~~;

a digital audio signal processor ~~(2, DSP);~~ ~~and~~

a digital audio signal output ~~(3),~~

a sensor for measuring background noise level, and

an element having as an input the measured noise level and as an output a HP cut-off frequency,

wherein the HP cut-off frequency increases as the background noise level increases, and a LP cut-off frequency decreases as the HP cut-off frequency increases,

wherein the digital audio signal processor ~~(2, DSP)~~ comprises:

a high pass (HP) filter ~~(21)~~ with a ~~high pass~~ HP frequency (f),

an amplifier ~~(22)~~ for a signal filtered by the HP filter, ~~and~~

a low pass (LP) filter ~~(23)~~ with a ~~low pass~~ LP frequency (f') ~~for filtering~~ that filters the signal after amplification by the amplifier ~~(22)~~ and for providing an output signal, ~~and the digital processor comprises~~

an establisher ~~(24, 25) for establishing~~ that establishes the ~~high pass~~ HP frequency or the ~~low pass~~ LP frequency, and

a matcher ~~(26) for matching~~ that matches the ~~high pass~~ HP frequency and ~~low pass~~ the LP frequency of the ~~high pass~~ HP filter and ~~low pass~~ the LP filter respectively to each other.

2. (Canceled).

3. (Currently Amended) A sound reproduction system as claimed in ~~claim 2~~ claim 1, further comprising:

a single LP filter with a variable cut-off frequency.

4. (Currently Amended) A sound reproduction system as claimed in ~~claim 2~~ claim 1, further comprising:

a set of LP filters with a different LP cut-off frequency,

wherein ~~and~~ the matcher is arranged to send the signal after amplification to one of the set of LP filters, in dependence on the HP cut-off frequency.

5. (Currently Amended) A sound reproduction system as claimed in claim 1,

wherein the establisher is arranged for establishing the cut-off frequency of the ~~high pass~~ HP filter in dependence on the average amplification in the amplification stage.

6. (Currently Amended) A sound reproduction system as claimed in claim 1, wherein the establisher is arranged to set the cut-off frequency f' of the LP filter at $f_s/2$, wherein f_s is ~~the~~ a sample frequency and the matcher matches the ~~high pass~~ HP frequency f to the ~~low pass~~ LP frequency f'.

7. (Currently Amended) A sound reproduction system as claimed in claim 6, further comprising:

a single HP filter with a variable cut-off frequency.

8. (Currently Amended) A sound reproduction system as claimed in claim 6, further comprising:

a set of HP filters with a different HP cut-off frequency and wherein the matcher is arranged to send the signal before amplification to one of the set of HP filters, in dependence on the LP cut-off frequency.

9. (Original) A sound reproduction system as claimed in claim 1, wherein the HP cut-off frequency (f) is a frequency between 300 Hz and 2 kHz.

10. (Original) A sound reproduction system as claimed in claim 1, wherein the LP cut-off frequency lies above 2 kHz and $f_s/2$, where f_s is ~~the~~ a sample frequency.

11. (Currently Amended) ~~Digital~~ A digital audio signal processor comprising:

a high pass (HP) filter ~~(21)~~ with a ~~high-pass~~ HP frequency (f)~~,~~;

an amplifier ~~(22)~~ for a signal filtered by the HP filter~~,~~; and

a low pass (LP) filter ~~(23)~~ with a ~~low-pass~~ LP frequency (f') ~~for filtering~~ that filters the signal after amplification by the amplifier ~~(22)~~ and ~~for providing~~ provides an output signal, ~~and the digital processor comprises~~

an establisher ~~(24, 25) for establishing~~ that establishes the ~~high-pass~~ HP frequency or the ~~low-pass~~ LP frequency, ~~and~~

a matcher ~~(26) for matching~~ that matches the ~~high-pass~~ HP frequency and the LP frequency respectively to each other,

a sensor for measuring background noise level, and

an element having as an input the measured noise level and, as an output, a HP cut-off frequency,

wherein the HP cut-off frequency increases as the background noise level increases, and a LP cut-off frequency decreases as the HP cut-off frequency increases.

12. (Currently Amended) A method for processing digital sound signals,

~~in which method the~~ wherein frequency components below a HP cut-off frequency f ~~is~~ are removed prior to amplification, and, after amplification, ~~the~~ frequency ~~component~~ components above a LP cut-off frequency are removed,

wherein the values of the HP cut-off frequency and the LP cut-off frequency f' are matched, and

wherein a noise level (N) is measured and the HP cut-off frequency f is determined in dependence on the measured noise level.

13. (Original) A method as claimed in claim 12,

wherein the HP cut-off frequency lies between 300 and 2 kHz.

14-16. (Canceled).